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Factors controlling the regioselectivity of the addition of dimethyl phosphite to dibenzylidene derivatives of ketones

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Abstract

1. Dibenzylidene derivatives of acetone, cyclohexanone, and cyclopentanone react with dimethyl phosphite in the presence of sodium methoxide by the 1,4-addition scheme, with the formation of mono- and bis- adducts with a γ-ketophosphonate structure. 2. In contrast to the benzylidene derivatives of acetone, cyclohexanone,and cyclopentanone, because of steric hindrance by the phosphono-substituted benzyl group, the monoadducts do not form addition products with dimethyl phosphite at the carbonyl group. © 1980 Plenum Publishing Corporation.

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